An Analysis of Gastrointestinal Parasite Prevalence Among Schoolchildren in the Palajunoj Valley of Guatemala

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Background: Gastrointestinal parasites contribute significantly to morbidity and mortality in the developing world. This study provides an analysis of demographic factors that may affect specific parasite infestations. Our hypothesis was that young age, wet season, female gender, and severe malnutrition all positively correlate with increased rates of parasitic infection.

Methods: Clinical visits were performed on 10 586 schoolchildren over the course of four years (2004—2007) in the Palajunoj Valley of Guatemala, during which stool samples were screened for the presence of gastrointestinal parasites. The gender, age, severity of malnutrition, community of residence of the children, and the season (wet or dry) in which the samples were taken were recorded, as well as presence of infection with the following parasites: Ascaris lumbricoides, Giardia lamblia, Entamoeba histolytica, Hymenolepis nana, and Blastocystis hominis.

Results: Viable stool samples were collected for 5705 of 10 586 children (53.9%) aged 5 to 15. Statistical analysis of the data showed higher rates of infection in younger children for two of the five parasites, higher infection rates for females for one of the five, higher incidence of infection during wet season for two of the five, higher infection rates for malnourished children for two of the five, and an overall decline in parasite infections for three of the five parasites examined.

Conclusions: Our data suggest that parasitic infection in young Guatemalan children is highly dependent on the specific parasites. Many of our findings supported those of previous studies, though some did not. Further study is needed to clarify the impact that malnutrition, age, gender, and seasonal variation play in parasitic infection patterns in at-risk populations.

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Symptomatic and Asymptomatic Cryptosporidial Infections in Childhood - Results from a Longitudinal Study in An Urban Slum in South India

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Background: Cryptosporidium, a leading cause of diarrhea in children, is associated with cognitive function deficits and stunting with the risk increasing with the number of episodes per year. We aimed to identify the frequency of cryptosporidial infections, both symptomatic and asymptomatic, in children in a semi urban slum in south India.

Methods: In a birth cohort of 452 children, being followed up for all episodes of diarrhea, Cryptosporidium was screened for by acid fast microscopy of diarrheal samples. cryptosporidial diarrhea below the age of 2 years, PCR at the SSU rRNA locus was carried out on all diarrheal and surveillance samples by pooling 3 sequentially collected samples. PCR RFLP was then carried out on all individual samples from positive pools to identify the infecting species.

Results: 1019 (surveillance and diarrheal) samples from these 20 cases were screened. 12/20 (60%) cases had more than one positive pool. Defining an "episode" as having no intervening negative samples and to be of the same species, 31 episodes were seen of which only 6 were asymptomatic. 7 of the 20 cases had more than 1 and 3 of 20 had more than 2 episodes. Nearly all repeat episodes were due to *C. hominis* with only 1 child having a *C. parvum* and *C. felis* co-infection. In 12 diarrheal episodes, asymptomatic shedding was detected for more than 2 weeks after the documented episode of cryptosporidial diarrhea while 8 episodes were preceded by asymptomatic oocyst shedding.

Conclusions: This study illustrates the importance of using molecular tools to estimate the true frequency of cryptosporidial infections and the extended duration of oocyst shedding during early childhood cryptosporidial diarrhea. The long term effects of repeated cryptosporidiosis on physical growth and cognitive function in these children remains to be estimated.

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Characterization, Antibiotics Utilization and Outcomes of Neonatal Sepsis in Patients Admitted to a University Teaching Hospital in Malaysia: The Limits of the Evidence

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Background: Neonatal sepsis is one of the most common reasons for admission to neotatal units in developing countries and it remains a significant cause of neonatal morbidity and mortality. The use of antibiotics is the standard of care in the treatment of pediatrics with sepsis. Studies have documented the unnecessary, injudicious, or excessive use of antibiotics practices that have led to increased mortality and an alarming rise in antibiotics resistance, which pose a major threat to public health globally. Improved guidelines for antibiotic treatment in sepsis neonatorum from institutional etiology and microbial sensitivity should therefore be drawn and enforced. Limited information is available about antibiotics use among neonates with suspected or confirmed sepsis in Malaysia and many regions of the world. To our knowledge, this is the first report on antibiotics utilization for neonatal sepsis in Malaysia. Our objectives are to explore and describe: the clinical characteristics of neonatal sepsis, the current pattern of antibiotics prescribing practices and outcomes.

Method: A retrospective evaluation of the neonates admitted with sepsis to the NICU of Hospital Universiti Sains Malaysia (HUSM); a university-based teaching hospital was conducted.

Results: Two hundred and fifty-one neonates were treated for neonatal sepsis in 2002 and 121 fulfilled the